

REMARKS

Claims 11-25 and 29-31 are pending. Support for new claim 31 can be found at page 8, lines 14 to 19 of the specification.

The present invention relates to a membrane comprising a composition including

- (a) 10 to 90 wt-% of at least one polyurethane elastomer comprising at least one hard segment and at least one soft segment, and
- (b) 90 to 10 wt-% of the solid,

wherein said solid is incorporated in said at least one polyurethane elastomer *and the melting point of the hard segment is more than 100 °C.*

The present invention also relates to composites which comprise at least one first layer comprising an electron-conducting electrochemically active compound, and at least one second layer comprising said membrane and being free of an electron-conducting electrochemically active compound. The present invention further relates to an electrochemical cell which comprises said membranes.

Claims 11, 12, 14, 15, 16 and 18 stand rejected under 35 U.S.C. 102(b) as being anticipated by EP 591782 ("EP'782"), as evidenced by EP 708454. Applicants respectfully traverse this rejection.

EP'782 and US 6,001,464 ("US'464") relate to a homogeneous, water-impermeable and respiratory active film consisting of at least two thermoplastic elastomeric resin components which are different from each other. One of said elastomeric resin components is a co-polyetherester elastomer and a second component is a thermoplastic workable segmented polyurethane elastomer. According

to the specification, the film matrix may comprise antiblocking agents, which may be inorganic substances such as silicates, silicon dioxide and calcium carbonate (EP'782 page 4, lines 42 to 46; US'464 column 4, lines 56 to 61).

In its Example 1, US'464 discloses a film consisting of copolyetherester elastomer with addition of 20% by weight polyurethane, 0.6% by weight lubricant, 0.08% by weight calcium stearate and **3.5% by weight SiO₂**, based on the mixture of components. US'464 further states that the antiblocking agents are added in quantities of 0.5 to 6% by weight and preferably in quantities of 2 to 4% by weight (see column 4, lines 56 o 64).

Therefore, the membranes according to the present invention differ from the film according to EP'782 or US'464 in the weight proportion of the solid, which in EP'782/US'464 is 3.5 wt-% and in the present invention is 10 to 90 wt-%. Additionally, EP'782 and US'464 are silent as to the fact that the melting point of the hard segment is more than 100 °C. The melting points of the segments of the polyurethane elastomer are not mentioned in EP'782 and US'464.

Claims 11-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP 8-59981 ("JP'981"). Applicants respectfully traverse this rejection.

JP'981 relates to a urethane-based elastomer film having a good moisture permeability and water-proofness, which may be used as a diaper. As may be apparent from the section "constitution" the composition claimed therein is obtained by blending a filler and polyurethane-based resin composition comprising a thermoplastic polyurethane resin with a soft segment consisting of a polymer and 5 to 25 wt-% of an

ethylene-propylene-diene copolymer rubber.

JP'981 is silent as to the exact physical data of the soft and hard segment of the polyurethane elastomer. Therefore, JP'981 does not teach using a polyurethane with at least one hard segment and at least one soft segment in a membrane, whereby the melting point of the hard segment is more than 100 °C, and thus does not anticipate the present claims.

Claims 11-18 and 26-28 stand rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (US 5,346,788). Applicants respectfully traverse this rejection.

Chang et al. relates to a battery separator composed of a microporous sheet product having first and second major surfaces and a thickness of less than about 50 mils, formed from a uniform mixture of a thermoplastic polyurethane polymer having a high degree of hard segments with a filler. The filler may comprise various oxides, carbonates, minerals and silicates (see column 8, lines 34 to 52).

The polymers used to form the body of the subject battery separator are described in detail in Chang et al. at column 4, lines 19 to 48. These polymers are selected from thermoplastic polyurethanes having a major amount of hard segments therein. The term "*hard segment*" refers to polymer chain units derived from the reaction of an organic polyisocyanate with low molecular weight polyols. Such hard segment units contrast to "*soft segment*" polymer chain units formed from an organic polyisocyanate at a molecular weight polyol.

Chang et al. does not mention the physical data of the soft and hard segments

TOBINAGA et al., Ser. No. 09/857,031

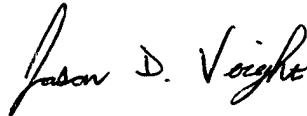
used in the thermoplastic polyurethanes. Thus, Chang et al. does not disclose that the melting point of the hard segment of the polyurethane elastomer is more than 100 °C. Therefore, the subject-matter of the present invention is not anticipated by Chang et al.

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Respectfully submitted,
KEIL & WEINKAUF

A handwritten signature in black ink, reading "Jason D. Voight". The signature is written in a cursive, flowing style.

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